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10/563,637

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Christopher Milton Mathew Franco

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EXAMINER

UNDERDAHL, THANE E

ART UNIT

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1651

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/563,637 | Applicant(s) FRANCO ET AL. | |
| | Examiner THANE UNDERDAHL | Art Unit 1651 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-45 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted. The groups and the claims they include are as follows:

Group I, claim(s) 1, 7-30 are drawn to a method to improve plant productivity using either a endophytic actinomycetes or metabolite from an endophytic actinomycete strain with a specific SEQ ID listed in claim 1.

Group II, claim(s) 2, 7-30 are drawn to a method to improve plant productivity using either a endophytic actinomycetes or metabolite from an endophytic actinomycete strain with a specific SEQ ID listed in claim 2.

Group III, claim(s) 3, 7-30 are drawn to a method to improve plant productivity using either a endophytic actinomycetes or metabolite from an endophytic actinomycete strain with a specific SEQ ID listed in claim 3.

Group IV, claim(s) 31 are drawn to a method to improve plant productivity using either a endophytic actinomycetes or metabolite from an endophytic actinomycete strain listed in claim 31.

Group V, claim(s) 32 are drawn to an endophytic actinomycetes or metabolite from an endophytic actinomycete strain listed in claim 32.

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Group VI, claim(s) 33 are drawn to an endophytic actinomycetes or metabolite from an endophytic actinomycete strain listed in claim 33.

Group VII, claim(s) 34 are drawn to an agriculture composition comprising an endophytic actinomycetes or metabolite from an endophytic actinomycete strain listed in claim 34.

Group VIII, claim(s) 35 are drawn to an agriculture composition comprising an endophytic actinomycetes or metabolite from an endophytic actinomycete strain listed in claim 35.

Group IX, claim(s) 36, 38, 39 are drawn to a novel endophytic actinomycetes strain with a SEQID listed in claim 36 and their metabolites.

Group X, claim(s) 37-39 are drawn to a novel endophytic actinomycetes strain with a SEQID listed in claim 37 and their metabolites.

Group XI, claim(s) 40 are drawn a method using the endophytic actinomycetes strain or metabolite from Group IX or X to improve plant growth.

Group XII, claim(s) 41 are drawn a method using the endophytic actinomycetes strain or metabolite from Group IX or X to biodegrade material.

Group XIII, claim(s) 42-44 are drawn a method using the endophytic actinomycetes strain or metabolite from Group IX or X to treat a condition in a subject.

Group XIV, claim(s) 45 are drawn a method using the endophytic actinomycetes strain or metabolite from Group IX or X to manufacture a composition for agricultural application.

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(a) An international or national stage application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept. Where a group of inventions is claimed in an application, the requirement of unity of invention shall be fulfilled only when there is a technical relationship among those invention involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the **CLAIMED INVENTIONS, CONSIDERED AS A WHOLE, MAKES OVER THE PRIOR ART.**

In this instance the Examiner believes the special technical feature is endophytic actinomycetes or metabolites derived from these bacteria or their derivatives, homologues, analogues, chemical equivalent or mimetic.

The inventions listed as Groups I-XIV do not relate to a single general inventive concept under PCT Rule 13.1 because the invention AS CLAIMED is known in the art, see (Sardi et al. Table 2) which teach a derivative, homologue, analogue or chemical equivalent of endophytic actinomycetes, and thus no special technical feature unites these inventions in a category.

ELECTION OF SPECIES

In addition if Group I is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism (designated i) or the metabolite (designated ii) generated in claim(s) 1.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed from (a)-(i) in claim 1 and the species listed in claims 17-20, 23, 24, 26, 27.

If applicant elects the metabolite from above, a further election of species is required that elects the type of metabolite listed in claims 7 and 8.

The applicant must also elect one growth promotion/biocontrol characteristic in claim(s) 9 selected from the lists in claim 10, 11, 14, 15, 21, 28.

If Group II is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism (designated i) or the metabolite (designated ii) generated in claim(s) 2.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed from (a)-(u) in claim 2 1 and the species listed in claims 17-20, 23, 24, 26, 27.

If applicant elects the metabolite from above, a further election of species is required that elects the type of metabolite listed in claims 7 and 8.

The applicant must also elect one growth promotion/biocontrol characteristic in claim(s) 9 selected from the lists in claim 10, 11, 14, 15, 21, 28.

If Group III is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the percent similarity in nucleotide sequence in claims 3 and 4.

Also the Applicant must elect the actinomycete from claims 5 and 6 and the species listed in claims 17-20, 23, 24, 26, 27 to be considered in claim 3.

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If applicant elects the metabolite from above, a further election of species is required that elects the type of metabolite listed in claims 7 and 8.

The applicant must also elect one growth promotion/biocontrol characteristic in claim(s) 9 selected from the lists in claim 10, 11, 14, 15, 21, 28.

If Group IV is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism (designated i) or the metabolite (designated ii) generated in claim(s) 31.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed from (a)-(c) in claim 31.

If Group V is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism or the metabolite generated in claim(s) 32.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed from (a)-(i) in claim 32.

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If Group V is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism or the metabolite generated in claim(s) 33.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed from (a)-(u) in claim 33.

If Group VI is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism or the metabolite generated in claim(s) 34.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed from (a)-(i) in claim 34.

If Group VII is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism or the metabolite generated in claim(s) 35.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed from (a)-(u) in claim 35.

If Group VIII is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism or the metabolite generated in claim(s) 36.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed from (a)-(r) in claim 36.

If applicant elects the metabolite from above, a further election of species is required that elects the type of metabolite listed in claims 38 and 39.

If Group IX is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism or the metabolite generated in claim(s) 37.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed from (a)-(ap) in claim 37.

If applicant elects the metabolite from above, a further election of species is required that elects the type of metabolite listed in claims 38 and 39.

If Group X is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism (designated i) or the metabolite (designated ii) generated in claim(s) 40.

If Group XI is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism (designated i) or the metabolite (designated ii) generated in claim(s) 41.

If Group XII is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the metabolite used in the method of claim(s) 42 selected from the SEQIDs presented in claims 36 and 37.

If Group XIII is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism or the metabolite generated in claim(s) 43.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed in claim 35 and 36.

If applicant elects the metabolite from above, a further election of species is required that elects the type of metabolite listed in claim 37. (The Examiner would like to point out that claim 37 is not drawn to any metabolites only organisms).

If Group XIV is elected, a further election of species must be made. This application contains claims containing the following patentably distinct species which are described below:

The applicant must elect either the endophytic actinomycetes organism or the metabolite generated in claim(s) 45.

If applicant elects the organism from above, a further election of species is required from the group consisting the specific SEQID listed in claim 35 and 36.

If applicant elects the metabolite from above, a further election of species is required that elects the type of metabolite listed in claim 37. (The Examiner would like to point out that claim 37 is not drawn to any metabolites only organisms).

The species are independent or distinct because they do not belong to any art recognized group nor do they share a substantial structural feature. Art on one species does not render the others obvious.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and ***a listing of all claims readable thereon***, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

MULTIPLE INVENTORS

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

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remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

OCHIAI

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. Process claims that depend from or otherwise include all the limitations of the patentable product will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b)," 1184

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O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. Failure to do so may result in a loss of the right to rejoinder.

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

CONCLUSION

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions

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unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thane Underdahl whose telephone number is (571) 272-9042. The examiner can normally be reached Monday thru Thursday, 8:00 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached at (571) 272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon B Lankford Jr/
Primary Examiner, Art Unit 1651